University of Michigan Journal of Law Reform

Volume 44

2011

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THE TEXAS WIND ESTATE: WIND AS A NATURAL RESOURCE AND A SEVERABLE PROPERTY INTEREST

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In 2011, Texas is again at the forefront of an energy boom: the wind energy boom. In 2006, Texas surpassed California and became the U.S. state with the most installed capacity to produce wind energy, and Texas' level of installed capacity has continued to grow. But the law has not kept pace with this growth. Similar to the initial growth of the oil and gas industry in Texas, the wind energy industry was also born, and continues to grow, in the absence of clear legal and regulatory standards. Lack of regulation in the early development of the oil industry contributed to oversupply and rampant waste of oil. Similarly, lack of regulation of the developing wind energy industry could lead to wasteful practices regarding wind energy development. This Note argues that the Texas Legislature should pass laws clarifying that wind is a natural resource under the Texas Constitution, and that to promote "[t]he conservation and development" of wind as a natural resource, the Legislature should statutorily recognize wind rights as an interest severable from land ownership.

INTRODUCTION

Texas has been at the forefront of the energy industry in the United States for more than 100 years, following the discovery of oil in Corsicana, Texas in 1894,[1] and then at Spindletop in 1901. As such, Texas oil and gas law has followed growth in the industry to become regarded as one of the most sophisticated such bodies of law in the world.[2] That courts outside of Texas often apply Texas law to resolve oil and gas disputes exemplifies the national impact of Texas energy law.[3] Moreover, Texas oil and gas law often governs

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1. John O. King, *The Early Texas Oil Industry: Beginnings at Corsicana, 1894–1901*, 32 J.S. HIST. 505, 505–06 (1966).

2. *See* Cullen M. Godfrey, *A Brief History of the Oil and Gas Practice in Texas*, 68 TEX. B.J. 812, 813, 815 (2005).

3. *See, e.g.*, Walker Operating Corp. v. Fed. Energy Reg. Comm'n, 874 F.2d 1320, 1323–31 (10th Cir. 1989) (interpreting various points of Texas oil and gas law to affirm FERC's jurisdiction over state pricing determinations); *In re* Arbitration Between Asamera

agreements between foreign companies involved in oil and gas activities,[4] and is specified as governing law in choice-of-law clauses in arbitration provisions for international oil and gas agreements.[5] Similarly, many U.S. companies prefer to incorporate in Delaware to avail themselves of the well-developed body of Delaware corporate law and the expertise of the Delaware Chancery Courts, therefore positioning Delaware corporate law as the national model.[6] Many U.S. companies engaged in international commerce specify that the jurisdiction of the U.S. District Court for the Southern District of New York governs their contracts due to that court's familiarity with international commercial issues.[7] Like Delaware corporate law and the jurisdiction of the Southern District of New York, Texas' body of oil and gas law impacts states outside of Texas. Texas is thus naturally positioned to develop a body of law regulating wind energy which could serve as a national and international model and attract out-of-state parties to resolve disputes in Texas courts.

The United States depends on fossil fuels such as oil for energy, and has increasingly relied on importing oil from foreign countries to satisfy its energy needs.[8] Recognizing the potential hazards of

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(S. Sumatra) Ltd. & Tesoro Petro. Corp., 807 F. Supp. 1165, 1168–69 (S.D.N.Y. 1992) (upholding an arbitral panel's interpretation of the "no greater estate" principal in Texas mineral leases). The Texas Supreme Court's interpretation of the accommodation doctrine in *Getty Oil Co. v. Jones*, 470 S.W.2d 618, 621–23 (Tex. 1971), has been followed outside of Texas. *See, e.g.*, Amoco Prod. Co. v. Thunderhead Invs., Inc., 235 F. Supp. 2d 1163, 1173 (D. Colo. 2002) (following the Texas Supreme Court's interpretation of the accommodation doctrine in a dispute between a Delaware corporation and a Colorado corporation); Diamond Shamrock Corp. v. Phillips, 511 S.W.2d 160, 163 (Ark. 1974) (finding the Texas Supreme Court's interpretation of the accommodation doctrine to be "very persuasive"). Mississippi courts have routinely followed Texas oil and gas law. *See, e.g.*, Sims v. Inexco Oil Co., 618 F. Supp. 183, 187–88 (S.D. Miss. 1985); Sw. Gas Producing Co. v. Seale, 191 So. 2d 115, 122 (Miss. 1966).

4. ERNEST E. SMITH ET AL., MATERIALS ON INTERNATIONAL PETROLEUM TRANSACTIONS 68 (2d ed. 2000).

5. *See* Terri Truitt Griffiths & Timothy J. Tyler, *Arbitrating International Oil and Gas Disputes: Practical Considerations*, *in* INTERNATIONAL OIL AND GAS VENTURES: A BUSINESS PERSPECTIVE 187, 192 (George E. Kronman et al. eds., 2000) (noting the tendency of parties in negotiating arbitration clauses of oil and gas contracts to specify Texas law as governing their transactions). *See generally* Thompson & Knight, LLP, Choice of Law Considerations when Drafting Arbitration Provisions for International Oil and Gas Agreements 1–17 (2006) (unpublished manuscript), *available at* http://www.tklaw.com/resources/documents/Article%20-%20Choice%20of%20Law%20Considerations.pdf (comparing the suitability of English, New York, and Texas law in oil and gas agreements and concluding that Texas law would be the more desireable body of law to address common operational disputes and technical issues in oil and gas transactions).

6. *See* STEPHEN M. BAINBRIDGE, MERGERS AND ACQUISITIONS 6–7 (2d ed. 2009).

7. SMITH ET AL., *supra* note 4, at 68.

8. *See* Ronald H. Rosenberg, *Diversifying America's Energy Future: The Future of Renewable Wind Power*, 26 VA. ENVTL. L.J. 505, 505–06 (2008).

foreign dependence, the United States is now looking to diversify its energy sources.[9] Wind energy[10] has become a popular option given its renewable nature and the United States' potential to develop wind energy facilities.[11] Wind energy has various advantages over traditional energy sources, including reduced fuel costs in electricity production, reduced environmental harms attendant to fossil fuel based energy production—namely natural resource depletion and air pollution—and potential to provide a source of economic growth for large swaths of rural America.[12] Moreover, the United States has potential production capacity[13] in wind energy sufficient to meet at least twenty percent of its domestic energy needs, given the current state of technology and installed transmission capacity.[14]

In 2011, Texas is again at the forefront of an energy boom: the wind energy boom.[15] In 2006, Texas surpassed California and became the U.S. state with the most installed capacity to produce wind energy, and Texas' level of installed capacity has continued to grow.[16] But the law has not kept pace with this growth. Similar to the initial growth of the oil and gas industry in Texas, the wind

9. *See id.* at 506–08.

10. Wind comes from the uneven heating of the Earth's surface from the Sun, which creates areas of higher and lower atmospheric pressure. Cooler air flows into the areas of lower atmospheric pressure, thus creating wind. Electricity is produced with wind energy by erecting a turbine with attached blades, similar to an airplane propeller, above the ground. Wind flows across the blades causing them to turn, which moves an electrical generator inside the turbine and produces electricity. Modern turbines have the ability to adjust their position with respect to the direction of the flow of the wind in order to maximize electricity production. *Id.* at 517–18.

11. *See id.* at 519; *see also Advantages and Challenges of Wind Energy*, U.S. DEP'T OF ENERGY, http://www1.eere.energy.gov/windandhydro/wind_ad.html (last visited Sept. 10, 2010); *Wind Energy Resource Potential*, U.S. DEP'T OF ENERGY, http://www1.eere.energy.gov/windandhydro/wind_potential.html (last visited Sept. 10, 2010).

12. *See* Rosenberg, *supra* note 8, at 522–26.

13. For the purposes of this Note, "capacity" is defined as "maximum possible electrical output." RANDOM HOUSE WEBSTER'S COLLEGE DICTIONARY 197 (2d rev. ed. 2000) [hereinafter WEBSTER'S DICTIONARY]. Thus, installed transmission capacity is the "maximum possible electrical output" that can be carried over existing power lines and related power distribution infrastructure. *See id.* Similarly, installed capacity to produce, installed production capacity, or installed generating capacity would be "the maximum possible electrical output" that can be generated given the current number of functioning wind turbines. *See id.*

14. *See* Rosenberg, *supra* note 8, at 522–26; *Wind Energy Potential*, AM. WIND ENERGY ASS'N, http://www.awea.org/faq/wwt_potential.html#How%20much%20energy (last visited Sept. 10, 2010); *supra* note 13 (defining installed transmission capacity).

15. *See* Drew Thornley, *Texas Wind Energy: Past, Present and Future*, 4 ENVTL. & ENERGY L. & POL'Y J. 69, 69–74 (2009).

16. *See id.* at 75 (showing that as of September 30, 2008, Texas had 7113 megawatts (MW) of installed wind energy capacity, well in excess of the 2537 MW of installed capacity in California, and representing almost twenty-eight percent of the 25,410 MW of total installed capacity in the United States); *supra* note 13 (defining capacity).

energy industry was also born, and continues to grow, in the absence of clear legal and regulatory standards.[17] Lack of regulation in the early development of the oil industry contributed to oversupply and rampant waste of oil.[18] Similarly, lack of regulation of the developing wind energy industry could lead to wasteful practices regarding wind energy development. The risk is compounded by the inexact application of developed oil and gas law to the legal questions surrounding wind energy.[19]

Because wind is a renewable resource, wasteful practices in the developing wind energy industry raise different concerns than wasteful practices in the oil and gas industry.[20] Nonetheless, wasting wind is as harmful as wasting oil if the State aims to maximize the use of its energy resources.[21] Thus, to fully utilize the state's energy resources, the State needs authority to regulate wind to mitigate wasteful practices, and landowners need a legal property interest in wind that they can market or develop and that courts will recognize and protect.[22] Yet under current law it is unclear whether the State has full regulatory power over wind as a property interest severable from land, and whether wind ownership is incident to land ownership.[23] Addressing these issues requires resolving at least three legal questions.

The first question is whether wind is considered a "natural resource" like oil or groundwater,[24] such that the Texas Legislature can pass laws to regulate it under the Texas Constitution.[25] The

17. *See* Paul Santoyo, *Laws Regarding Wind Energy Development Headed for Texas*, SAN ANTONIO BUS. J., Aug. 24, 2007, at 24, *available at* http://www.bizjournals.com/sanantonio/stories/2007/08/27/focus2.html.

18. *See* WILLIAM R. CHILDS, THE TEXAS RAILROAD COMMISSION: UNDERSTANDING REGULATION IN AMERICA TO THE MID-TWENTIETH CENTURY 157–69, 199–228 (2005) (describing the history of waste in the Texas oil and gas industry from the 1910s through the 1930s due in part to the lack of an effective regulatory scheme, and also describing the efforts of the Texas Railroad Commission as the agency charged with regulating the industry to establish such a scheme).

19. *See* K.K. DuVivier, *Animal, Vegetable, Mineral—Wind? The Severed Wind Power Rights Conundrum*, 49 WASHBURN L.J. 69, 85–93 (2009).

20. *See infra* text accompanying notes 61–63.

21. *See* Lisa Chavarria, *Wind Power: Prospective Issues*, 68 TEX. B.J. 832, 835 (2005) (noting that if the wind were classified as a natural resource, the Texas Legislature could pass laws to maximize production of wind energy).

22. *See infra* notes 64–75 and accompanying text.

23. *See infra* Part II.A–C.

24. Groundwater is defined in the Texas Water Code as "water percolating below the surface of the earth." TEX. WATER CODE ANN. § 35.002(5) (West 2008).

25. TEX. CONST. art. XVI, § 59(a) ("The conservation and development of all of the natural resources of this State . . . , and the preservation and conservation of all such natural resources of the State are each and all hereby declared public rights and duties; and the Legislature shall pass all such laws as may be appropriate thereto."); *see also* Terry E. Hog-

next question is whether wind is subject to ownership in Texas.[26] Wind could be subject to ownership in Texas under common law by applying to wind one of four accepted theories of ownership: the theory of groundwater, the theory of *ferae naturae* (wild animals), the unified fee theory of ownership, or surface water[27] law.[28] The final question is whether a landowner's interest in the wind that flows over his land is severable from the surface estate.[29] Despite a lack of legislative and judicial guidance on this question, wind leases in Texas are typically written as if wind rights are severable.[30] Yet it is unknown whether Texas courts will recognize the severability of a wind estate.[31]

This Note argues that the Texas Legislature should pass laws clarifying that wind is a natural resource under the Texas Constitution, and that to promote "[t]he conservation and development" of wind as a natural resource, the Legislature should statutorily recognize wind rights as an interest severable from land ownership.[32] Part I compares the initially wasteful history of the oil and gas industry in Texas with the early development of the Texas wind industry and discusses downfalls to wasting wind. Part II addresses whether wind is a natural resource, the legal theories that could

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wood, *Against the Wind*, ST. B. TEX.: OIL, GAS & ENERGY RESOURCES L. SEC. REP., Vol. 26, No. 2, Dec. 2001, at 6, 11.

26. Hogwood, *supra* note 25, at 6.

27. For the purposes of this Note, "surface water" is defined as the water flowing in a well-defined channel or watercourse such as a river, creek or stream. *Cf.* Citizens Against Landfill Location v. Tex. Comm'n on Envtl. Quality, 169 S.W.3d 258, 274 (Tex. App. 2005) (discussing the different categories of surface water in Texas). "Surface water" is not defined in the Texas Water Code, but Texas case law defines two categories of surface water: diffuse surface water and water in a watercourse. *See id.* A watercourse has the following characteristics: "(1) a defined bank and beds, (2) a current of water, and (3) a permanent source of supply." *Id.* The statutory definition of "state water" would include, *inter alia*, what this Note defines as "surface water". *See* TEX. WATER CODE ANN. § 11.021(a) (West 2008) (defining "state water" as "[t]he water of the ordinary flow, underflow, and tides of every flowing river, natural stream, and lake, and of every bay or arm of the Gulf of Mexico, and the storm water, floodwater, and rainwater of every river, natural stream, canyon, ravine, depression, and watershed in the state is the property of the state").

28. *See* Romero v. Bernell, 603 F. Supp. 2d 1333, 1334–35 (D.N.M. 2009); Hogwood, *supra* note 25, at 6–11 (describing possible legal theories in Texas law which could provide a justification for wind ownership).

29. Lisa Chavarria, *The Severance of Wind Rights in Texas* 1 (Sept. 11, 2008), *available at* http://www.sbaustinlaw.com/library-papers/Chavarria-The_Severance_of_Wind_Rights%20(Final).pdf (revision of a manuscript originally published as Lisa Chavarria, *Undertaking the Severance of Wind Rights*, ST. B. TEX.: OIL, GAS & ENERGY RESOURCES L. SEC. REP., Vol. 32, No. 2, Dec. 2007, at 12).

30. *Id.* at 4 ("[C]onveyance of wind rights to individuals or entities who do not own the surface estate has become a common undertaking by Texas landowners.").

31. *Id.* ("We do not, however, have the second part of the equation—the endorsement of the law and with it assurances that a severance will be upheld.").

32. TEX. CONST. art. XVI, § 59(a).

support a property interest in wind, and whether any recognized property rights in wind should be a severable property interest. Part III argues that the Texas Legislature should enact laws clarifying that wind is a "natural resource" under the Texas Constitution, that there is a recognized property interest in wind, and that this interest is severable. This Note concludes that clarifying wind energy laws will benefit the developing wind energy industry in Texas.

I. THE TEXAS ENERGY INDUSTRY

During the initial development of the oil and gas industry in Texas there was little regulation of oil and gas production. This history is analogous to the initial growth of wind energy in Texas, since there is currently little regulation of wind energy production. Without regulation, waste and inefficient production characterized the early history of the oil and gas industry. This serves as a cautionary tale about the potential to waste wind energy from inefficient production practices if the wind energy industry develops without clarity regarding the Legislature's authority to regulate it.

A. The Early History of the Texas Oil & Gas Industry

Texas energy law developed in the early 20th century to regulate the state's booming oil and gas industry. In 1919, the rule of capture governed oil production in Texas.[33] In *Brown v. Humble Oil & Refining Co.*, the Texas Supreme Court defined the rule of capture as "the right to produce all of the oil and gas that will flow out of the well on one's land."[34] The court added that the rule of capture "is limited only by the physical possibility of the adjoining landowner diminishing the oil and gas under one's land by the exercise of the same right of capture."[35] This rule inevitably led to overproduction because property owners raced to drill as many wells as would fit on their land and extract as much oil as possible from the field before their neighbors tried the same.[36] The rule of capture

33. *See* CHILDS, *supra* note 18, at 157.

34. 83 S.W.2d 935, 940 (Tex. 1935) (citing Stephens Cnty. v. Mid-Kan. Oil & Gas Co., 254 S.W. 290 (Tex. 1923); Hous. & Tex. Cent. Ry. Co. v. East, 81 S.W. 279 (Tex. 1904); Prairie Oil & Gas Co. v. State, 231 S.W. 1088, 1089 (Tex. Comm'n App. 1921, judgm't adopted)).

35. *Id.*

36. *See* CHILDS, *supra* note 18, at 157. *See generally* Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1244–45 (1968) (describing how pursuit of individual interests leads to the overconsumption and depletion of communal resources).

therefore encouraged unlimited production that led to waste in the oil fields.[37] To make matters worse, there were not enough pipelines to transport all the oil that the fields produced.[38] Thus, oil was physically wasted because not all the oil produced could be transported to market,[39] and economically wasted because the market was saturated, leading to artificially low prices.[40] This promoted the physical and economic waste of a natural resource rather than its conservation and optimal development.[41]

The Texas Railroad Commission entered this landscape in 1919 and began passing regulations to control oil production.[42] Its statutory mandate charged it to promulgate rules to conserve oil and gas and prevent waste.[43] With time, Texas energy law evolved to curtail waste in oil and gas production. The sparse regulation in the early days of the state's petroleum industry contrasts starkly with Texas' current oil and gas laws, which are robust, developed, and sophisticated.[44]

Examining the early history of the oil and gas industry in Texas raises two concerns regarding the emergence of the wind energy industry. First, it is unclear whether landowners have a property interest in wind that they can seek to protect in courts and whether the State can regulate wind.[45] Without a clear property right, or the ability to effectively regulate wind, wasteful practices in developing and producing wind energy may emerge.[46] Although the rule of

37. *See* CHILDS, *supra* note 18, at 157.

38. *Cf. id.* at 157–60 (discussing how correlative rights and prorationing orders required pipelines to take "proportionately from all producers [causing] more producers to appear than would have been the case had they not had that assurance").

39. *See* Browning Oil Co. v. Luecke, 38 S.W.3d 625, 633 n.3 (Tex. App. 2000) ("Physical waste generally refers to the unnecessary flaring, evaporation, or other surface loss of oil and gas or production practices that reduce or tend to reduce the total ultimate recovery of oil or gas from any pool.").

40. *See id.* ("Economic waste refers to the drilling of unnecessary wells and production in excess of reasonable market demand."); *cf.* CHILDS, *supra* note 18, at 157–60 (discussing how the rule of capture led to "unfettered production" and how correlative rights required pipeline companies to take proportionately from every producer in the field, thus causing more producers to appear than would have otherwise been the case).

41. *See* CHILDS, *supra* note 18, at 157–58, 202.

42. *See* Brown v. Humble Oil & Ref. Co., 83 S.W.2d 935, 937–41 (Tex. 1935) (describing the delegation of regulatory authority over oil and gas to the Railroad Commission and some of the early rules that the Railroad Commission promulgated after it was charged with regulating oil and gas, as well as some of the laws the Legislature passed to the same end).

43. 1919 Tex. Gen. Laws 286 ("It shall be the duty of the railroad commission to make and enforce rules and regulations for the conservation of oil and gas . . . ."); *see* CHILDS, *supra* note 18, at 155–56.

44. *See* Godfrey, *supra* note 2, at 813–15; *supra* notes 3–7 and accompanying text.

45. *See* Hogwood, *supra* note 25, at 6–11.

46. *See id.* at 12 (arguing that absent legal protections, nothing currently prohibits a neighbor from constructing a structure on his property that blocks all wind flow onto an adjacent landowner's property); *see also* Troy Rule, *A Downwind View of the Cathedral: Using*

capture provided a clear ownership interest in oil, an unregulated market led to waste and inefficiency, and this cautions against allowing wind energy to develop in a similar legal and regulatory void.[47]

B. The Emergence of the Wind Energy Industry in Texas

In some respects, wind is an older energy source than oil and gas. There is extensive evidence that wind power has been used for a variety of purposes over the past 2,000 years, including land drainage, mining, and agriculture. Windmills were used to grind grain and pump water in ancient Persia and China.[48] During King James's reign, windmills were used in London to grind grain, and thus aided in developing the economy and food production.[49] Although the first wind-powered turbine for producing electricity was invented in 1888,[50] the first commercially viable wind farms for producing electricity in the United States were only established in the 1980s.[51]

The wind energy industry in Texas originated in 1999 when the Legislature passed, and then-Governor George W. Bush signed into law, the State's Renewable Portfolio Standard (RPS).[52] The RPS initially called for the production of 2,000 megawatts (MW) of renewable generating capacity by the year 2009 and defined "renewable energy technology" to include wind power.[53] In 2006, Texas met the initial RPS goal of 2,000 MW of installed renewable generating capacity three years ahead of schedule, and surpassed California to lead the nation in installed renewable generating capacity.[54] In 2005, the Legislature amended the RPS to increase its renewable energy production targets to 10,000 MW of installed re-

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Rule Four to Allocate Wind Rights, 46 SAN DIEGO L. REV. 207, 213–15 (2009) (stating that in the absence of regulations concerned with the efficient placement of turbine sites, wind turbine placement might underutilise prime development land).

47. *Compare* CHILDS, *supra* note 18, at 157–58 (describing waste in the production of oil in the time before the Market-Demand Act when there was little or no regulation of the industry), *with* Rule, *supra* note 46, at 213–15 (discussing the potential for lost production of wind energy from turbine wake setbacks).

48. Rosenberg, *supra* note 8, at 516.

49. *See* MICHAEL BOWLES, GALE ON EASEMENTS 238 n.6 (13th ed. 1959).

50. Rosenberg, *supra* note 8, at 516.

51. *See* Brit T. Brown & Benjamin A. Escobar, *Wind Power: Generating Electricity and Lawsuits*, 28 ENERGY L.J. 489, 492 (2007).

52. *See* 1999 Tex. Gen. Laws 2598–99; David Hurlbut, *A Look Behind the Texas Renewable Portfolio Standard: A Case Study*, 48 NAT. RESOURCES J. 129, 129 (2008).

53. 1999 Tex. Gen. Laws 2598–99; Hurlbut, *supra* note 52, at 130, 132; *see also supra* note 13 (defining capacity and installed generating capacity).

54. *See* Thornley, *supra* note 15, at 75.

newable generating capacity by January 1, 2025.[55] As of January 2011, Texas led the nation with 10,085 MW of installed capacity,[56] enough to fully supply electricity to more than two million Texas homes.[57]

The development of wind energy in Texas is reminiscent of the oil and gas boom of the early 20th century.[58] Like the early Texas oil fields, there is high demand for wind energy coupled with very little restriction on the placement and construction of wind farms and wind turbines.[59] Yet rapid, unregulated growth in the early oil and gas industry contributed to excessive waste of oil and gas.[60] This cautions that rapid growth in wind energy development could similarly lead to waste of wind and wind energy.

C. Wasting Wind

Because wind is a renewable resource, wasting it does not raise the same concerns as wasting oil and gas.[61] Unlike fossil resources such as oil and gas that are lost forever when physically wasted, wind is replenishable.[62] Wasting wind, however, forgoes opportunities to harness the energy it provides. Such forgone opportunities are known as opportunity costs in economics and are defined as "the economic cost of an alternative that has been foregone [sic]."[63] Rather than wasting a resource that can never be replaced,

55. TEX. UTIL. CODE ANN. § 39.904(a) (West Supp. 2009); Hurlbut, *supra* note 52, at 132.

56. AM. WIND ENERGY ASS'N, U.S. WIND INDUSTRY YEAR-END 2010 MARKET REPORT 5 (2011), *available at* http://www.awea.org/documents/reports/4Q10_market_outlook_public.pdf.

57. *See* SUSAN COMBS, TEX. COMPTROLLER OF PUB. ACCOUNTS, THE ENERGY REPORT 160 (2008), *available at* http://www.window.state.tx.us/specialrpt/energy/pdf/96-1266EnergyReport.pdf ("Texas homes tend to use more electricity than the average U.S. home, since electricity[,] rather than fuel oil and natural gas[,] supplies most of the state's residential and commercial-sector energy. In addition, hot Texas summers increase the amount of electricity used for air conditioning. Consequently, in Texas a megawatt of wind energy powers about 230 homes, compared to the U.S. average of 300 homes." (footnote omitted)); *Wind Energy Basics*, AM. WIND ENERGY ASS'N, http://www.awea.org/faq/wwt_basics.html (last visited Sept. 10, 2010) ("An average U.S. household uses about 10,655 kilowatt-hours (kWh) of electricity each year. One megawatt of wind energy can generate from 2.4 to more than 3 million kWh annually. Therefore, a megawatt of wind generates about as much electricity as 225 to 300 households use.").

58. Chavarria, *supra* note 21, at 833.

59. *See* Ernest Smith, *Wind Energy: Siting Controversies and Rights in Wind*, 1 ENVTL. & ENERGY L. & POL'Y J. 281, 282–83 (2007).

60. *See supra* Part I.A.

61. *See* Ronald H. Rosenberg, *Making Renewable Energy a Reality—Finding Ways to Site Wind Power Facilities*, 32 WM. & MARY ENVTL. L. & POL'Y REV. 635, 659–62 (2008).

62. *See id.* at 660 (noting that wind is an inexhaustible resource).

63. ROBERT COOTER & THOMAS ULEN, LAW & ECONOMICS 34 (5th ed. 2008).

wasting wind represents an opportunity cost, in the form of the lost chance to harness wind to produce electricity, or to do so in a more efficient manner. This, in turn, forces society to forgo the benefits of clean energy production and to rely on power produced from traditional sources, such as fossil fuel based power plants.

Wasteful practices in harnessing wind energy take several forms. First, inefficient siting, or placement, of wind farms away from areas that have optimal wind flow for electricity generation could result from nuisance suits when neighbors sue to enjoin the construction of wind farms to preserve scenic views from their properties or from environmental litigation because wind farms interfere with migratory birds' flight patterns.[64] Also, turbine wake turbulence[65] can diminish the wind flow to downwind[66] turbines if windmills are clustered too close together, leading to lower electrical generation at downwind windmills.[67] In the absence of a judicial remedy, upwind[68] neighbors who consider wind farms a nuisance could resort to self-help and install windbreaks along their property line to diminish wind flow to their neighbors' wind farms.[69] In addition, with the legal status of wind severance in doubt, some wind project developers are hesitant to work with landowners who have severed their wind rights.[70] While some landowners may prefer to sell their wind rights to developers rather than enter into long-term leases, the market for severed wind rights will not develop without clarity as to whether severance is permissible, and if so,

64. *See* Brown & Escobar, *supra* note 51, at 493 ("Aesthetic and environmental concerns have been some of the most commonly litigated issues stemming from the construction and operation of wind projects."); Victoria Sutton & Nicole Tomich, *Harnessing Wind Is Not (by Nature) Environmentally Friendly*, 22 PACE ENVTL. L. REV. 91, 103–15, 120 (2005) (arguing that wind farm siting should consider the harm wind farms cause to the local ecosystem and migratory birds); *see also* Smith, *supra* note 59, at 290–97 (analyzing the probability of success of nuisance suits in the context of both small scale and large scale wind projects); *cf.* Kristina Culley, Note, *Has Texas Nuisance Law Been Blown Away by the Demand for Wind Power?*, 61 BAYLOR L. REV. 943, 961–67, 972 (2009) (discussing a failed nuisance case against a wind farm in which the plaintiffs based their nuisance claim on aesthetic diminishment, vibrations, and noise).

65. Turbine wake turbulence is the downwind air disturbance and unsteady wind flow caused by large commercial wind turbines. *See* Rule, *supra* note 46, at 208–09. This can reduce airflow to turbines up to half a mile away and make them less productive. *Id.*

66. "Downwind" in this Note means that something is located "in the direction toward which the wind is blowing" from a given reference point. WEBSTER'S DICTIONARY, *supra* note 13, at 398.

67. *See* Rule, *supra* note 46, at 208–09, 213–15.

68. "Upwind" in this Note means that something is located "in the direction from which the wind is blowing" from a given reference point. WEBSTER'S DICTIONARY, *supra* note 13, at 1438.

69. *See* Hogwood, *supra* note 25, at 12.

70. *See* Chavarria, *supra* note 29, at 4–5.

further clarity as to the rights that a severed wind estate carries with respect to the surface estate and the mineral estate.[71] These uncertainties could stall some wind projects. Moreover, given the traditional dominance of the mineral estate in Texas,[72] potential wind energy projects may be sidelined if they conflict with mineral extraction projects on the same tract of land.[73] Without the authority to conserve wind as a natural resource, the Legislature's ability to resolve these issues is dubious; without a property right in wind, landowners have no cognizable or protectable interest in which to invest; and without clarity regarding wind severance, some projects will simply not proceed.[74] The current state of the law forces society to forgo wind energy production in favor of power from traditional sources, which have harmful effects on air quality and possibly contribute to anthropogenic climate change.[75]

Once wind is harnessed and converted into electricity, wind energy may be subject to both physical and economic waste. Physical waste of wind energy could result from transmission constraints, production variability, and inefficient storage.[76] Transmission constraints could prevent wind energy that is produced in rural areas from being delivered to customers in urban areas.[77] Additionally, the wind could blow and produce electricity at times when such

71. *See id.*

72. "In Texas the owner of land owns the oil, gas, and other minerals beneath the land in fee simple. If ownership of the minerals is severed from ownership of the surface, two separate fees simple result." 1 ERNEST E. SMITH & JACQUELINE LANG WEAVER, TEXAS LAW OF OIL AND GAS § 2.1(A), at 2–3 (2d ed. 2009) (footnote omitted) (citing Tex. Co. v. Daugherty, 176 S.W. 717 (Tex. 1915)). Thus the mineral estate comprises the minerals below the surface of the estate. *See* JOHN S. LOWE, OIL AND GAS LAW IN A NUTSHELL 38–42 (5th ed. 2009) (describing severance and the mineral interest in oil and gas law).

73. *See* Chavarria, *supra* note 21, at 840. *See generally* K.K. DuVivier & Roderick E. Wetsel, *Jousting at Windmills: When Wind Power Development Collides with Oil, Gas, and Mineral Development*, 55 ROCKY MTN. MIN. L. INST. § 9.03, at 9-9 to -12 (2009).

74. *See* Chavarria, *supra* note 21, at 834–35, 837, 840 (discussing (1) the Legislature's ability to assure orderly development of wind power if the wind is classified as a natural resource; (2) the lack of clarity on the issue of wind ownership, but concluding that wind ownership is incident to the surface estate; (3) the lack of clarity on the issue of severance, but describing the contours and rights that a wind estate could entail); Chavarria, *supra* note 29, at 4–5 (discussing some effects of the lack of clarity on the issue of wind severance and warning that, due to this lack of clarity, caution is warranted when undertaking severance).

75. *See* Melanie McCammon, Note, *Environmental Perspectives on Siting Wind Farms: Is Greater Federal Control Warranted?*, 17 N.Y.U. ENVTL. L.J. 1243, 1275–78 (2009) (discussing the unmet demand for wind energy as one of the externalities that society bears when local interests dictate wind farm siting decisions); *see also* Rosenberg, *supra* note 61, at 658–70 (discussing the pros and cons of wind power that could affect siting decisions).

76. *See* Thornley, *supra* note 15, at 75–94.

77. *See, e.g.*, Hurlbut, *supra* note 52, at 136; *see also* Ryan Thomas Trahan, Note & Comment, *Social and Regulatory Control of Wind Energy—An Empirical Survey of Texas and Kansas*, 4 TEX. J. OIL GAS & ENERGY L. 89, 93 (2008).

electricity is not in demand.[78] If large-scale storage of electricity were possible, electricity could be stored until it is needed, but there currently are no feasible means of storing excess electricity.[79] Economic waste of wind energy could occur in situations where the market for wind energy becomes saturated, perhaps due to government subsidies for renewable energy.[80] This would lead to artificially low electricity prices, and would hamper the future development of wind energy projects once the subsidies are removed.[81] Regulation of wind energy can prevent these actual and potential forms of waste.

To avoid wasting wind and to promote future growth in wind energy production, the Legislature needs authority to regulate wind as a natural resource, and landowners need a legally recognized and protected property interest in wind.[82] Achieving this requires clarifying the legal questions that lawmakers have largely avoided over the last ten years. In Texas, is wind a natural resource like groundwater and petroleum? Is wind subject to ownership? If so, is wind also subject to the rule of capture? If wind ownership is incident to property ownership, are wind rights severable?[83] The Texas wind energy industry has grown tremendously despite these unsettled questions,[84] and parties to wind leases commonly adopt the position that the wind estate is severable from the surface estate.[85] This severability implies that wind is a resource incident to land ownership that property owners are free to exploit, much like petroleum, groundwater, and other minerals.[86] Nonetheless, while severance of wind rights from the surface estate has become com-

78. *Cf.* COMBS, *supra* note 57, at 167 ("When the wind blows hard and wind turbines produce more electricity than the grid can accommodate, the producers in West Texas shut down the wind turbines.").

79. *See* Thornley, *supra* note 15, at 84–88.

80. *See, e.g.*, 26 U.S.C. § 45 (2006) (authorizing a production tax credit for renewable energy production); *see also* Thornley, *supra* note 15, at 101–11 (discussing various wind power subsidiy programs at the federal, state, and local levels).

81. *See* Chavarria, *supra* note 21, at 834 ("Congress has consistently allowed the [production tax credit] to expire, only to renew it, causing boom and bust cycles in the wind industry.").

82. *See supra* notes 45–47 and accompanying text.

83. *See* TEX. HOUSE OF REPRESENTATIVES HOUSE RESEARCH ORG., CAPTURING THE WIND: THE CHALLENGES OF A NEW ENERGY SOURCE IN TEXAS 17–18 (2008) [hereinafter HOUSE RESEARCH ORG.], *available at* http://www.hro.house.state.tx.us/focus/Wind80-9.pdf; Chavarria, *supra* note 21, at 834–40; Hogwood, *supra* note 25, at 6–13.

84. *See supra* notes 52–57 and accompanying text.

85. Chavarria, *supra* note 29, at 4; Hogwood, *supra* note 25, at 11.

86. *See* Contra Costa Water Dist. v. Vaquero Farms, Inc., 68 Cal. Rptr. 2d 272, 278 (Ct. App. 1997); Chavarria, *supra* note 21, at 837; Hogwood, *supra* note 25, at 6–10.

mon practice,[87] neither Texas' Legislature nor its courts have spoken to the issue of severability.[88]

Recognizing that growth in wind energy will continue, the Texas Legislature should consider the history of the oil and gas industry and act immediately to avoid wasted opportunities to develop wind energy. Wind's status as a natural resource subject to regulation must be codified. This will allow the Legislature to mitigate wasteful practices in the harvest of wind. Clarifying that wind is a natural resource will allow the Legislature to pass laws confirming the landowner's interest in the wind blowing over his property. This will affirmatively recognize wind as a form of property in which the landowner can invest and develop by constructing windmills. Finally, statutorily allowing for the severability of wind rights will clear up existing doubts as to the viability of this practice, enable landowners to transfer or sell their wind rights without losing their surface estate, and will afford landowners protection beyond what they are currently able to negotiate in wind leases.[89]

II. WIND: A NATURAL RESOURCE AND A SEVERABLE PROPERTY INTEREST

The first area of uncertainty in current wind energy law is whether wind is a natural resource that is subject to regulation under Texas' constitutional framework. The answer to this question affects the viability of various theories of property ownership that serve as rationales for recognizing a property interest in wind. The law underlying the ownership of groundwater provides the most useful analogy for recognizing a property interest in wind, but this Note will also discuss other potential theories of wind ownership that scholars have proposed. Finally, before deciding whether wind

87. Chavarria, *supra* note 29, at 4.

88. *Id.* at 1, 4.

89. In addition to the policy goal of promoting growth in wind energy, it is also worth considering that, at present, the main protection landowners have over their wind rights comes in the form of provisions in contractual agreements with wind farm developers. *See* HOUSE RESEARCH ORG., *supra* note 83, at 18. Yet some landowners may not have the sophistication or the resources to navigate the negotiation and drafting of a wind lease. While there are many qualified attorneys who have experience drafting wind leases, contracting an attorney may be out of the reach of some landowners. Statutory clarifications defining the wind rights of landowners would provide protection outside of the landowner's ability to bargain and draft a wind lease. *See id.*; *see also* Joseph O. Wilson, Note, *The Answer, My Friends, Is in the Wind Rights Contract Act: Proposed Legislation Governing Wind Rights Contracts*, 89 IOWA L. REV. 1775, 1785–99 (2004) (addressing some of the considerations in a wind lease, and proposing legislation to standardize wind leases and contractual agreements, in part for the benefit of landowners who must negotiate long-term contracts with wind developers).

interests are severable from the surface, it is important to consider whether severance is appropriate for wind, and the advantages to having a severable wind estate.

A. Wind as a Natural Resource

Finding wind to be a natural resource would position the Legislature to mitigate wasteful practices in wind harvesting, such as turbine wake interference.[90] The Texas Constitution states that "[t]he conservation and development of all of the natural resources of this State . . . , and the preservation and conservation of all such natural resources of the State are each and all hereby declared public rights and duties; and the Legislature shall pass all such laws as may be appropriate thereto."[91] The Texas Supreme Court has interpreted this amendment narrowly, finding that regulatory power over natural resources is within the sole purview of the Legislature.[92] Thus, while courts may help define the category, only the Legislature may pass laws regulating natural resources.[93]

Wind is similar to some of the natural resources that the Legislature already regulates under the Texas Constitution. The Texas Natural Resources Code contains various titles and can be taken as a list of natural resources in Texas.[94] These titles include: Public Domain, Oil and Gas, Mines and Mining, Geothermal Energy and Associated Resources, Timber, Heritage, Caves, and Wetlands.[95] The Texas Water Code is separate from the Natural Resources Code and includes storm and floodwater, rivers and streams, and groundwater, which are also considered natural resources in Texas.[96]

Oil and gas, mining, geothermal energy, and associated activities are analogous to wind in that these resources are, or at least can be, used to generate energy, and the Legislature has sought to regulate them.[97] Moreover, wind is sometimes compared in its behavior to surface water, thus making it similar to surface water

90. *See* Chavarria, *supra* note 21, at 835.

91. TEX. CONST. art. XVI, § 59(a).

92. *See* Sipriano v. Great Spring Waters of Am., Inc., 1 S.W.3d 75, 77 (Tex. 1999) ("This constitutional amendment . . . made clear that in Texas, responsibility for the regulation of natural resources . . . rests in the hands of the Legislature.").

93. *See id.*

94. *See* TEX. NAT. RES. CODE ANN. tits. 2–6, 9–10, 12 (West Supp. 2010).

95. *Id.*

96. TEX. WATER CODE ANN. §§ 1.003, 35.001 (West 2008).

97. *See* Chavarria, *supra* note 21, at 837 ("[T]he development of wind power, like mineral development, benefits the public as a whole by providing it with an energy source.").

that is managed as a natural resource.[98] Finally, the law governing ownership of groundwater is offered as a basis for wind ownership.[99] If this law is applicable to wind, then it would imply that, like groundwater, wind should be considered a natural resource under the Texas Constitution.[100] If wind were recognized as a natural resource, "[t]he Legislature could promulgate regulations to ensure the proper and orderly development of wind power and perhaps maximize the amount of energy generated in the windiest parts of [the] state."[101] To this end, once wind is codified as a natural resource, the Legislature can pass laws to establish the contours of wind ownership rights, and to make those rights severable, thus providing landowners with a resource they can develop, market, and protect in the courts.

B. Justifications for a Property Interest in Wind

The Court of Civil Appeals of Texas seemed to recognize a right to wind access as early as 1904.[102] In *Choctaw, Oklahoma & Texas Railway Co. v. True*, the court found that it was proper to allow evidence that would support a plaintiff's claim for damages resulting from the construction of an embankment that blocked wind flows to the plaintiff's windmill.[103] Although the *True* Court did not specifically recognize a right to wind access,[104] and the case has never been cited for that proposition, one commentator has argued that the court at least recognized a value to wind access.[105] Yet, given the ambiguous language and potentially limited holding of the case, more is needed as a legal justification for wind ownership.

Commentators and case law have offered several justifications for the Texas Legislature to recognize a property interest in wind. These include a theory of unified fee ownership, a theory of *ferae naturae* (wild animals), and the law governing groundwater.[106] In

98. *See, e.g.*, Romero v. Bernell, 603 F. Supp. 2d 1333, 1335 (D.N.M. 2009).

99. *See* Hogwood, *supra* note 25, at 9–11.

100. *See id.* at 11.

101. Chavarria, *supra* note 21, at 835.

102. Choctaw, Okla. & Tex. Ry. Co. v. True, 80 S.W. 120, 121 (Tex. Civ. App. 1904).

103. *Id.*

104. *See id.*

105. *See* Thaddeus Baria, Comment, *Up the Creek With a Paddle: Water Doctrine as a Basis for Small Wind Energy Resource Rights*, 59 DEPAUL L. REV. 141, 153 (2009) (citing *Choctaw, Okla. & Tex. Ry.*, 80 S.W. at 121).

106. *See* Romero v. Bernell, 603 F. Supp. 2d 1333, 1335 (D.N.M. 2009) (comparing the right to harvest wind energy to the right to appropriate surface water and groundwater under New Mexico's prior appropriation regime); Hogwood, *supra* note 25, at 6–11; *supra* note 24 (defining groundwater).

addition, the surface water[107] regimes in the United States, riparianism and prior appropriation,[108] could also serve as a basis for wind ownership.[109] Texas originally subscribed to riparianism, but over the years the water rights regime evolved until an exclusively prior appropriation regime was adopted to unify the water rights system and provide clarity to competing water claims.[110] This section will explore the suitability of these theories to the development of wind ownership.

1. "*Ad Coelum*": Unified Fee Ownership

Texas subscribes to the unified fee ownership theory[111]—the first of four theories addressed in this Note that justify establishing a property interest in wind. At common law under *ad coelum*,[112] or unified fee ownership theory, the landowner owns everything from the center of the earth to sky.[113] The only restriction on this rule is that the surface owner's use of the land cannot interfere with air travel.[114] "[A] landowner's exclusive dominion over his or her adjacent airspace is usually considered to extend only to the altitude of the owner's existing and effective reasonable use of the land."[115] Thus the argument proceeds that because "surface landowners have the right to use and develop the empty space above their property, . . . the right to the wind that blows over a property is held by the surface owner of that property."[116] Adopting this theory

107. *See supra* note 27 (defining surface water).

108. Riparianism allows owners of land adjacent to natural water bodies to make reasonable use of water from those bodies on the adjacent tract of land. Prior appropriation allows anyone to acquire a water right by diverting unclaimed water and applying it to beneficial use, subject to those appropriators first-in-time having seniority over later appropriators in times of shortage. *See* City of Marshall v. City of Uncertain, 206 S.W.3d 97, 101–03 (Tex. 2006).

109. *See, e.g.*, *Romero*, 603 F. Supp. 2d at 1335; Baria, *supra* note 105, at 162–79.

110. *See City of Marshall*, 206 S.W.3d at 101–03 (discussing the history of Texas' surface water law).

111. *See* Getty Oil Co. v. Jones, 470 S.W.2d 618, 621 (Tex. 1971).

112. "*Cujus est solum, ejus est usque ad coelum et ad inferos*—to whomsoever the soil belongs, it is theirs up to the sky and down to the depths." Chavarria, *supra* note 29, at 1 (citing 2 WILLIAM BLACKSTONE, COMMENTARIES 18 ("Land hath also, in its legal signification, an indefinite extent, upwards as well as downwards. *Cujus est solum, ejus est usque ad coelum*, is the maxim of the law . . . .")).

113. *See* Hogwood, *supra* note 25, at 7.

114. *See* United States v. Causby, 328 U.S. 256, 264–66 (1946).

115. Chavarria, *supra* note 21, at 834 (citing Shronk v. Gilliam, 380 S.W.2d 743 (Tex. Civ. App. 1964)).

116. HOUSE RESEARCH ORG., *supra* note 83, at 17.

would allow landowners to build wind turbines on their properties to make productive use of wind.[117]

However, standing alone, the unified fee theory is insufficient to establish a property right in wind. Under the unified fee theory, the grant of a right to the airspace above one's property is not equivalent to a property interest in the wind that blows over one's property.[118] To establish a property interest in wind, a landowner needs both a right to develop the airspace above his property, and a basis for a right in the wind as it moves across his property.[119] The Court of Civil Appeals of Texas in *Southwest Weather Research, Inc. v. Rounsaville* followed this logic in finding that a group of ranchers had a right to the rainfall that fell from the clouds over their property.[120] The court held that the ranchers' right to collect rainfall was based on the right of the landowners to the airspace above their property, as well as the common-law doctrine of natural rights.[121] Similarly, wind ownership will require some basis for ownership beyond the right of a landowner to the airspace above his property.[122]

If a landowner possesses nothing more than an interest in the airspace above his property, nuisance law could give his neighbors a competing right to keep the airspace above their property "free from certain undesirable substances and effects."[123] The question would then be whether the benefit to the landowner from occupying his airspace with wind turbines is greater than the harm that the loss of scenic views causes to his neighbor.[124] This balance would likely lead to different outcomes from case to case, perpetuating the uncertainty in the wind rights regime that impedes investments in wind power. The potential for these types of conflicts shows that without a basis for ownership in the air moving through a landowner's airspace, the unified fee theory is insufficient on its own to establish a property interest in wind for

117. *See* Rule, *supra* note 46, at 222.

118. *See* Hogwood, *supra* note 25, at 8.

119. *See id.* ("The proper question to ask concerning wind, once it breaks the ownership plane of Blackacre, is when is it capable of being owned[,] i.e. at the time it crosses the plane of Blackacre or after it has been reduced to possession (electricity).").

120. 320 S.W.2d 211, 216 (Tex. Civ. App. 1958), *aff'd*, Sw. Weather Research, Inc. v. Jones, 327 S.W.2d 417, 422 (Tex. 1959).

121. *Id.* ("We believe that the landowner is entitled . . . to such rainfall as may come from clouds over his own property that Nature, in her caprice, may provide.").

122. *See* Hogwood, *supra* note 25, at 7–8.

123. Rule, *supra* note 46, at 222.

124. *See id. But see* Rankin v. FPL Energy, LLC, 266 S.W.3d 506, 512–13 (Tex. App. 2008) (finding that a wind farm's aesthetic impact on its surroundings was not sufficient to support a nuisance claim).

commercial wind energy development.[125] The next issue, then, is what theories of property ownership could support a property interest in moving air as it traverses a tract of land.[126]

2. "*Ferae Naturae*": Ownership of Wild Animals

One possible analogy to establish ownership of wind blowing over a landowner's land and through his airspace is the theory of ownership of wild animals.[127] In Texas, wild animals, or animals *ferae naturae*, are property of the State until they "are *legally* removed from their natural liberty and made the subjects of man's dominion."[128] Wild animals are not confined to any one area, and their specific location and movements are not predictable to a very precise degree.[129] Similarly, although predicting wind speed and direction in a given area at a given time is possible, accurate weather predictions are limited to about three days in the future.[130] Thus, given similarities in the general unpredictability of both wild animals and wind, the laws governing the ownership of wild animals could be a useful tool to help landowners establish a property right in wind.[131]

Although a landowner can acquire an ownership interest in a wild animal, that interest exists only as long as the animal is captured, removed from nature, confined, and under the landowner's control.[132] The right is qualified in the sense that if the animal escapes back into the wild, the landowner loses his right over it and must capture it again to reestablish ownership.[133] Physical capture and possession of the wind, however, is not possible.[134] "To reduce wind to 'possession' appears to require that it be focused on driving the fins of a windmill which turn a generator and ultimately generates electricity."[135] Similar to a wild animal, the wind escapes after turning the blades of the turbine, and the landowner's right is

125. *See* Rule, *supra* note 46, at 222–23.
126. *See* Hogwood, *supra* note 25, at 8–9.
127. *See id.*
128. State v. Bartee, 894 S.W.2d 34, 41 (Tex. App. 1994) (emphasis added).
129. Hogwood, *supra* note 25, at 8.
130. *Id.* at 9.
131. *See id.* at 8–9.
132. *Bartee*, 894 S.W.2d at 41–42.
133. *Id.* at 41.
134. *See* Hogwood, *supra* note 25, at 6.
135. *Id.*; *cf.* HOUSE RESEARCH ORG., *supra* note 83, at 17 (" 'Capture' of the wind would be the right to *convert* or the actual *conversion* of the wind to [wind] energy." (emphasis added)).

lost, but it would be subject to capture for the next turbine or wind farm.[136]

Under the wild animal theory, the State owns all wild animals in trust for the benefit of the people.[137] Applying the wild animal theory to wind, the State would own the wind in trust for the benefit of the people before capture and after the wind escaped.[138] By owning all animals *ferae naturae* in trust for the people, the State has authority to regulate them and to determine how they can be legally captured.[139] The same would arguably be the case for wind; thus, the State could regulate wind whether or not it is classified as a natural resource under the Texas Constitution.[140] This would imply that to capture wind *legally*, one would have to convert it to wind energy in compliance with any State-imposed regulations.[141]

The Texas courts' longstanding acceptance of the theory of *ferae naturae* makes it difficult to apply to wind rights. The notion of State ownership of wild animals for the benefit of the people, and its corresponding duty to regulate takings of wild animals, is one of the oldest tenets of the common law.[142] If courts narrowly interpret the contours of State trusteeship as limited to wild animals, the extension of State trusteeship to wind is unlikely to survive judicial scrutiny. Thus, if the Legislature were to base wind ownership on the wild animal theory, it would be prudent to first pass a law codifying wind as a natural resource to ensure its regulatory authority over the resource.[143]

3. Groundwater: The Rule of Capture

Another theory to justify ownership of the wind blowing over a landowner's property and through his airspace is the law of groundwater, which in Texas means the rule of capture.[144] In Texas, the landowner owns all groundwater under his property,[145] subject

136. *Cf. Bartee*, 894 S.W.2d at 41 ("This qualified right is lost, however, if the animal regains its natural liberty." (citing Wiley v. Baker, 597 S.W.2d 3, 5 (Tex. Civ. App. 1980))).

137. *See id.* at 41–43.

138. *Cf. id.* at 41 (explaining that, under Texas law, an individual can possess a property right in captured wild animals, but the State owns wild animals when they are free and roaming both before they are captured and after they escape capture).

139. *Id.* at 42–43.

140. *See* Hogwood, *supra* note 25, at 9.

141. *See id.*

142. *See Bartee*, 894 S.W.2d at 41.

143. *See supra* Part II.A; *infra* Part III.A.

144. *See* Hogwood, *supra* note 25, at 9–11.

145. *See* Pecos Cnty. Water Control & Improvement Dist. No. 1 v. Williams, 271 S.W.2d 503, 505–06 (Tex. Civ. App. 1954).

to the rule of capture.[146] This means that the landowner has a right to capture and reduce the water to possession unless done with the purpose of maliciously injuring his neighbor or wasting the water.[147] Absent specific regulation, applying this doctrine to wind would allow a landowner to "have the right to capture[148] all of the wind that crossed the landowner's property, barring malicious or wasteful use. This would be the case even if the wind were prevented from crossing to a neighboring property, thereby interfering with the neighboring landowner's ability to capture the wind."[149]

The law of groundwater could establish an ownership interest in wind. Because groundwater is subject to regulation as a natural resource under the Texas Constitution, regulating wind under this regime would also require finding that wind is a natural resource to affirmatively grant the Legislature regulatory authority.[150] Although groundwater is a natural resource, the Legislature historically has not sought to regulate its capture to mitigate waste or for any other reason.[151] Thus, applying the rule of capture to wind rights does not guarantee that the Legislature will regulate wind to prevent waste.

As demonstrated in *Sipriano v. Great Spring Waters of America, Inc.*, Texas landowners should expect little, if any, relief from courts to protect against wasting wind energy under a rule of capture regime; instead they must turn to the Legislature for protection.[152] In *Sipriano*, the plaintiffs were a group of landowners who sued a water bottler that had drilled a well and pumped groundwater at a site near the plaintiffs' property, causing their wells to become de-

146. Chavarria, *supra* note 21, at 835 ("[A] surface owner has the right to take all of the percolating water he or she can capture from beneath the land." (citing Sipriano v. Great Spring Waters of Am., Inc., 1 S.W.3d 75 (Tex. 1999)).

147. *See* Sipriano v. Great Spring Waters of Am., Inc., 1 S.W.3d 75, 75–77 (Tex. 1999); *see also* Hogwood, *supra* note 25, at 10 ("Ownership is a pre-requisite to reducing percolating waters to possession. However, unless done maliciously or wastefully, the act of reducing percolating waters to possession can be done even if such possession actually harms the adjoining surface owner(s) and prohibits him from utilizing the water under his lands.").

148. *See supra* text accompanying note 135 (defining capture of wind).

149. HOUSE RESEARCH ORG., *supra* note 83, at 17.

150. Chavarria, *supra* note 21, at 835; Hogwood, *supra* note 25, at 11.

151. *See* Dylan O. Drummond, Comment, *Texas Groundwater Law in the Twenty-First Century: A Compendium of Historical Approaches, Current Problems, and Future Solutions Focusing on the High Plains Aquifer and the Panhandle*, 4 TEX. TECH J. TEX. ADMIN. L. 173, 205–06 (2003); Philip Dunlap, Comment, *Border Wars: Analyzing the Dispute over Groundwater Between Texas and Mexico*, 12 L. & BUS. REV. AM. 215, 221–22, 226–27 (2006). *See generally* Marvin W. Jones & Andrew Little, *The Ownership of Groundwater in Texas: A Contrived Battle for State Control of Groundwater*, 61 BAYLOR L. REV. 578 (2009) (noting that ownership of groundwater subject to the rule of capture was decided in 1840 when the Republic of Texas adopted the common law of England, and that the Texas Supreme Court has repeatedly affirmed the same since 1904).

152. 1 S.W.3d at 79–80.

pleted.[153] The Texas Supreme Court upheld the rule of capture, as well as the court's historic refusal to develop a doctrine of waste that would protect the plaintiff's right to access the water underlying his property.[154] According to the *Sipriano* court, the Texas Constitution charges the Legislature alone with preserving the state's natural resources.[155] This ruling demonstrates that the rule of capture, when applied to wind and unsupported by a doctrine of waste, could lead to waste, since courts lack authority to prevent turbine wake turbulence, suboptimal siting of wind farms and of turbines on individual wind farms, and forms of deliberate interference with wind flows by upwind neighbors.[156] Thus, if the State is to recognize wind ownership subject to the rule of capture, the Legislature must be willing to regulate wind as a natural resource to the extent necessary to mitigate wasteful practices that lead to suboptimal production levels.[157]

4. Surface Water Regimes

The law governing the right to use surface water is another theory supporting a property interest in wind.[158] Riparianism and prior appropriation, discussed earlier in this Note, are the two theories of law governing surface water.[159] However, there are at least two reasons that neither riparianism nor prior appropriation can determine whether there is a property interest in wind. First, these regimes govern the *use* rather than the ownership of surface water.[160] Also, both of these regimes assume the existence of water that flows in a defined watercourse, either a river or a lake.[161] Although wind flows exhibit patterns and some areas are predisposed

153. *Id.* at 75–76.

154. *Id.* at 80–81.

155. *Id.* at 77 (citing TEX. CONST. art. XVI, § 59(a)); *see also* Chavarria, *supra* note 21, at 835; Hogwood, *supra* note 25, at 11.

156. *See supra* notes 62–75 and accompanying text.

157. *Cf. Sipriano*, 1 S.W.3d at 82 (Hecht, J., concurring) ("The extensive regulation of oil and gas production proves that effective regulation of migrant substances far below the surface is not only possible but necessary and effective. In the past several decades it has become clear . . . that it is not regulation that threatens progress, but the lack of it.").

158. *See, e.g.*, Romero v. Bernell, 603 F. Supp. 2d 1333, 1335 (D.N.M. 2009) (comparing the right to harvest wind energy with the right to appropriate surface water and groundwater under New Mexico's prior appropriation regime); Baria, *supra* note 105, at 162–79 (arguing that the riparian rights doctrine would serve as a useful basis for wind rights in small-scale wind systems).

159. *See supra* note 108.

160. *See* JOSEPH L. SAX ET AL., LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS 27, 124–26 (4th ed. 2006).

161. *See id.* at 28, 124.

to receiving greater wind flows than others, the course of the wind flow is variable and not confined to any sort of physical boundary.[162] Thus, two of the principle assumptions underlying the surface water regimes are absent when applied to wind ownership.

Texas surface water law has evolved over time. Texas subscribed to riparianism when it first adopted the common law of England, but gradually evolved toward a prior appropriation regime until the passage of the Water Rights Adjudication Act in 1967, which officially adopted prior appropriation.[163] Riparianism has two problems as a basis for wind ownership in Texas. First, Texas no longer follows riparianism, so there is no current basis for it in Texas case law or statutes.[164] Moreover, riparianism allows water rights only for those whose tracts of land abut a natural body of water.[165] Thus, if riparianism were applied to wind, everyone would potentially be a "wind riparian" because wind blows over everyone's estate.[166] In cases of interference, competing rights to wind access, or nuisance claims, the argument would then essentially deal with little more than the application of riparian law's reasonable use criteria to competing rights of wind access.[167] The application of reasonable use criteria would be similar to the current regulatory void of wind rights and wind regulation, in which disputing parties have to resort to policy arguments regarding whose right to wind or air access is more reasonable or more beneficial to society.[168]

There are not yet any published state appellate or Texas Supreme Court cases discussing the applicability of prior appropriation to wind ownership. A recent New Mexico case, *Romero v. Bernell*, made the comparison and found that the right to harvest wind is similar to the right to appropriate water in that the right vests when wind or water is used for a "useful" or "beneficial

162. *See* COMBS, *supra* note 57, at 159 (discussing the abundance and variability of the wind).

163. TEX. WATER CODE ANN. §§ 11.301-.303 (West 2008); *see also* City of Marshall v. City of Uncertain, 206 S.W.3d 97, 101–04 (Tex. 2006) (discussing the history and evolution of water law in Texas); *supra* note 108 and accompanying text (defining riparianism and prior appropriation).

164. *See City of Marshall*, 206 S.W.3d at 102–04.

165. *See id.* at 101–02.

166. *See* Baria, *supra* note 105, at 165 (describing wind under a riparian theory as "communal 'property' " in making an argument for the riparian doctrine as a suitable basis for wind ownership for small-scale wind energy systems).

167. *See id.* at 164–78 (citing RESTATEMENT (SECOND) OF TORTS § 850A (1979)) (applying, to questions about the reasonable use of wind, the reasonable use factors listed in section 850A of the Restatement (Second) of Torts regarding whether the riparian use of water is reasonable).

168. *See, e.g.*, Rankin v. FPL Energy, LLC, 266 S.W.3d 506, 510–13 (Tex. App. 2008) (discussing a claim for nuisance based on a wind farm's aesthetic impact).

purpose."[169] Yet the court's analysis ignores the potential impact that a first-in-time focus could have on wind rights.[170]

Protecting older uses of wind at the expense of newer uses of wind could be counterproductive, especially where newer uses are more efficient than the existing uses.[171] Under such a system, a potential downwind wind farm may have more production capacity than its upwind neighbor, but if the upwind neighbor predated the downwind installations, the downwind appropriator would have no recourse against the upwind neighbor for impeding wind flows.[172] Conversely, if a potential wind farm site is upwind of an existing installation, this upwind site could not be developed if it would interfere with the existing downwind installations.[173] In either case, whether the potential wind farm is upwind or downwind, seniority would be the governing rule; the amount of wind energy produced would be less than the potential maximum efficient level. Thus, applying the prior appropriation doctrine to wind energy would not further Texas' policy goal of maximizing the development the state's energy resources.

C. The Severability Debate

If Texas recognizes a property interest in wind that is incident to the surface estate, the question then becomes whether that interest is severable.[174] Courts in California and New Mexico seem to recognize the severability of wind,[175] but no Texas court has addressed the issue.[176] Notably, courts and legislatures throughout the United States have not cited these cases as precedent on the issue of wind severability.[177] On the contrary, North Dakota and South Dakota have statutorily prohibited severing wind rights from the surface

169. 603 F. Supp. 2d 1333, 1335 (D.N.M. 2009).

170. *See* DuVivier, *supra* note 19, at 96 (noting the problems that arise when applying a first-in-time focus to wind rights).

171. *See id.* ("Thus, a prior appropriation system focuses on first-in-time, but does not necessarily consider the value of uses or encourage maximum benefit for the most people.").

172. *See id.*

173. *Cf. id.* (discussing how a prior appropriation regime would favor access for less efficient upwind facilities if they were constructed prior in time to more efficient downwind facilities).

174. *See supra* notes 29–31 and accompanying text.

175. *See, e.g.*, Romero v. Bernell, 603 F. Supp. 2d 1333, 1334–36 (D.N.M. 2009); Contra Costa Water Dist. v. Vaquero Farms, Inc., 68 Cal. Rptr. 2d 272, 275–78 (Ct. App. 1997).

176. *See* Ernest E. Smith & Becky H. Diffen, *Winds of Change: The Creation of Wind Law*, 5 TEX. J. OIL GAS & ENERGY L. 165, 177 (2009–2010) ("There is no legal precedent in Texas either supporting or rejecting the validity of a severance of wind rights.").

177. *See* DuVivier, *supra* note 19, at 89.

estate.[178] Commentators have also discussed wind severance and the rights that should accompany a severed wind estate.[179] At first glance, it seems there is no clear answer as to whether wind interests should be severable from the surface estate in Texas.[180] Examining cases decided outside of the state, however, is a useful starting point for discussing the merits of wind severance.

The Court of Appeal of California was first to discuss whether wind rights can be severed from the surface estate.[181] *Contra Costa Water District v. Vaquero Farms, Inc.* involved an eminent domain suit in which the plaintiff, Contra Costa Water District, as part of a project to construct a reservoir, condemned part of the defendant's land, Vaquero Farms, Inc., where wind turbines were located.[182] In an effort to pay less during the condemnation proceedings, the Contra Costa Water District reserved the wind rights to Vaquero Farms and only condemned the underlying land.[183] On appeal, the court narrowly defined the issue: "When a public entity acquires property through eminent domain, are the windpower rights capable of segregation or are they so affixed to the underlying land that they must be acquired by the condemning authority?"[184] The court compared the severance of wind to the severance of subsurface minerals, specifically oil and gas, and noted that capturing both hydrocarbons and wind ultimately results in generation of energy.[185] Although the court held that the Contra Costa Water District could reserve the wind rights, the holding was based at least in part on the "solidly-established tenet of California law that a condemnation of property for public use need not be unqualified, total, and unconditional."[186] Thus, while some commentators cite

178. N.D. CENT. CODE § 17-04-04 (2009) ("[A]n interest in a resource located on a tract of land and associated with the production of energy for wind power on the tract of land may not be severed from the surface estate."); S.D. CODIFIED LAWS § 43-13-19 (2004) ("No interest in any resource located on a tract of land and associated with the production or potential production of energy from wind power on the tract of land may be severed from the surface estate . . . .")

179. *Compare* DuVivier, *supra* note 19, at 85–98 (arguing that mineral severance is an inappropriate model for wind severance), *with* Chavarria, *supra* note 29, at 4–10 (discussing the practice of wind severance in Texas, why caution is warranted when one undertakes to sever wind rights, and the rights that should be included in a wind deed), *and* Hogwood, *supra* note 25, at 8 (stating that Texas courts would likely uphold a wind severance that was crafted in a fashion similar to mineral severance).

180. *See, e.g.*, DuVivier, *supra* note 19, at 97–98.

181. *See* Contra Costa Water Dist. v. Vaquero Farms, Inc., 68 Cal. Rptr. 2d 272 (Ct. App. 1997).

182. *Id.* at 273–74.

183. *Id.* at 275.

184. *Id.* at 276.

185. *Id.* at 278.

186. *Id.*

the court's comparison to mineral severance and interpret the holding broadly as support for the severance of the wind estate,[187] it is equally plausible to limit the holding to reservations made during condemnation proceedings.[188]

In March 2009, the U.S. District Court for the District of New Mexico addressed the issue of wind severance in *Romero v. Bernell*.[189] *Romero* involved a partition of a plot of land owned by the parties as tenants in common.[190] The respondent argued that the land could not be partitioned because the principal value of the land was in wind farm development, and that "wind power rights, like mineral rights, are not capable of being partitioned."[191] Breaking with the logic of *Contra Costa*, the court rejected the analogy to mineral severance and instead compared wind to water.[192] In making this comparison,[193] the court found that "[t]he right to 'harvest' wind energy is, then, an inchoate interest in the land which does not become 'vested' until reduced to 'possession' by employing it for a useful purpose."[194] The court then cited *Contra Costa* for the proposition that "[o]nly after [wind] is reduced to actual wind power can wind energy then be severed and/or quantified."[195] Because there were no windmills on the property, the court concluded the wind interest was not vested and ordered the property's division.[196] Thus, although *Romero* admits the possibility of a severable wind estate, that estate only includes wind that is actually captured; it does not include any speculative or inherent right in wind itself.[197]

These cases could support the existence of a severable interest in captured wind that is converted to wind energy.[198] The first advantage of recognizing the wind estate would be to clear up the uncertainty regarding the severance of wind rights in existing

187. *See, e.g.*, Chavarria, *supra* note 21, at 835–36; Hogwood, *supra* note 25, at 7–8.

188. *See, e.g.*, DuVivier, *supra* note 19, at 88.

189. 603 F. Supp. 2d 1333, 1334–36 (D.N.M. 2009).

190. *Id.* at 1334.

191. *Id.* (internal quotation marks omitted).

192. *Id.* at 1334–35; *see also supra* text accompanying note 169.

193. New Mexico applies prior appropriation to both its surface water and its groundwater, and an interest in groundwater is severable. DuVivier, *supra* note 19, at 97–98; *see also supra* text accompanying notes 169–173 (discussing *Romero* and the potential application of prior appropriation to the harvest of the wind).

194. *Romero*, 603 F. Supp. 2d at 1335.

195. *Id.* (citing Contra Costa Water Dist. v. Vaquero Farms, Inc., 68 Cal. Rptr. 2d 272 (Ct. App. 1997)).

196. *Id.* at 1335–36.

197. *Id.*

198. *See id.* at 1334–36; *Contra Costa Water Dist.*, 68 Cal. Rptr. 2d at 277–78; *see also* Chavarria, *supra* note 21, at 837 (stating that *Contra Costa* allows for the severance of wind rights).

leases.[199] Moreover, with the decline of agriculture, the economy of many parts of West Texas could benefit from the income-producing potential of wind power.[200] A property interest in wind would allow a landowner to invest in developing his wind resources, or to lease them, thus providing him with an additional source of income.[201] Severance would allow landowners to sell their wind rights without having to sell their entire estate,[202] making wind a freely transferable and marketable commodity. This would provide landowners with another potential source of income.[203] This would also encourage the development of wind energy because it would provide another means to transfer wind rights to those who value them the most and have the resources to develop them.[204]

There is one additional benefit to severability: the current lack of legislation puts landowners at a competitive disadvantage in trying to negotiate complicated long-term lease arrangements with wind energy developers. Given the current state of the law, the only protection the landowners have in such agreements is the contract itself.[205] Wind severance and the accommodation doctrine[206] between surface owners and the wind estate would provide a default rule to which landowners could resort to protect their existing surface uses.[207]

For wind severance to facilitate wind energy development, wind estate holders must be able to develop their wind estates by "hav[ing] rights and privileges similar to those held by the mineral estate holders."[208] In Texas, the five elements of the mineral estate include the rights to (1) develop, (2) lease, (3) receive bonus payments, (4) receive delay rentals, and (5) receive royalty

199. *See* Chavarria, *supra* note 29, at 4.

200. *See* Rosenberg, *supra* note 8, at 525–26 (discussing how landowners in rural areas would benefit from the additional income that wind farms would generate in the form of lease or royalty payments); *see also* HOUSE RESEARCH ORG., *supra* note 83, at 8 (noting the economic impact of wind development on rural counties and school districts in Texas).

201. *See* Rosenberg, *supra* note 8, at 525–26.

202. *Cf.* Hager v. Stakes, 294 S.W. 835, 841 (Tex. 1927) (discussing how a landowner who owns an undivided interest in his property can divest the minerals).

203. *See* Chavarria, *supra* note 21, at 837 ("Treatment of wind as a separate interest that can be freely conveyed provides a landowner with a readily marketable commodity.").

204. *See* Chavarria, *supra* note 29, at 10–11 (citing JOHN E. CRIBBET ET AL., PROPERTY: CASES AND MATERIALS 12 (8th ed. 2002)).

205. *See supra* note 89.

206. *See infra* notes 274–283 and accompanying text (defining the accommodation doctrine and applying it to the wind estate).

207. *See* Tex. Genco, LP v. Valence Operating Co., 187 S.W.3d 118, 121–23 (Tex. App. 2006) (discussing mineral severance and the accommodation doctrine in Texas).

208. Chavarria, *supra* note 21, at 837; *accord* Contra Costa Water Dist. v. Vaquero Farms, Inc., 68 Cal. Rptr. 2d 272, 278 (Ct. App. 1997).

payments.[209] Similar to minerals, the right to develop the wind estate would entail the right to use as much of the surface estate as is necessary to construct and maintain turbines.[210] Thus, a severable wind estate with rights similar to a severable mineral estate would facilitate further development of the wind energy industry in Texas, making more wind energy available to the public.[211]

Applying traditional mineral severance principles to wind severance could be problematic because, in contrast with mineral rights, wind rights require different surface uses and methods of extraction and because wind severance could create conflicts between owners of wind, surface, and mineral estates.[212] As the *Romero* court indicated, wind is not found in a set place like minerals, but is more analogous to flowing water or wild animals that roam on the surface of the earth as opposed to being embedded in it.[213] Also, wind farms make more extensive use of the surface than do most forms of mineral extraction.[214] Therefore, wind severance could impede wind energy development in several ways. First, wind severance could complicate surface access because the surface owner would not be involved in negotiations between the wind farm developer and the wind rights holder.[215] If severed wind rights carry an implied surface easement, then the wind farm developer would not need to consult the surface owner regarding surface access and would negotiate only with the holder of the wind rights.[216] Thus, the potential for disaccord and conflict would exist between the surface owner and the wind developer.[217] Moreover, because using both the mineral estate and wind estate requires surface access, there is potential for conflict if the mineral estate and the wind estate have distinct owners.[218] Because of these potential conflicts, some wind investors question the wisdom of working with landowners who have severed their wind rights.[219] Arguably then, "the traditional rationales for mineral severance do not support

209. Altman v. Blake, 712 S.W.2d 117, 118 (Tex. 1986); *see also* Chavarria, *supra* note 29, at 5–10 (describing these rights in the context of a wind severance).

210. *See* Chavarria, *supra* note 21, at 837 ("Since wind power, oil, and gas have the same ultimate function, each should have the same protections.").

211. *See id.* at 837, 840.

212. *See* DuVivier, *supra* note 19, at 85–86.

213. Romero v. Bernell, 603 F. Supp. 2d 1333, 1334–35 (D.N.M. 2009); *accord* Hogwood, *supra* note 25, at 6.

214. *See* DuVivier, *supra* note 19, at 85.

215. *See id.* at 86.

216. *See id.*

217. *See id.*

218. *See id.*

219. *See id.* (citing Chavarria, *supra* note 29, at 5).

severance as the most effective method for encouraging the development of wind power."[220]

Under both the wild animal theory and the rule of capture, promoting the right to capture wind assumes that a landowner will not place a greater value on wind free from capture.[221] One may not desire to live next to a wind farm, and if wind rights are severable, one may attempt to purchase his neighbors' wind rights to prevent the installation of a wind farm.[222] In such situations, the opportunity to harvest wind would be wasted, and society would be denied the benefit of optimal levels of production of wind energy.[223]

In sum, severability is a contentious issue, and the contours of a severable wind estate could take various forms.[224] Although Texas should recognize the severability of wind rights, the Legislature and the courts should make sure they do so in a way that continues to promote the policy goal of non-wasteful growth in wind energy.[225] Court decisions and statutes from other states should provide guidance, but lawmakers in Texas ultimately will have to develop a severable estate that balances the State's competing interests and is based on Texas property law.

III. STATUTORY PROPOSAL & JUDICIAL GUIDANCE

To encourage wind energy development, the Texas Legislature should first codify wind's status as a natural resource subject to regulation under article XVI, section 59 of the Texas Constitution.[226] Next, the Legislature should pass laws recognizing an ownership interest in wind based on the rule of capture analogous to the logic underlying the ownership of groundwater. This will cement landowners' interests in wind and assure them of wind property rights in which they can invest and seek the courts' protection. Finally, the Legislature should pass laws codifying that this ownership interest is severable from the surface estate, thus estab-

220. DuVivier, *supra* note 19, at 86.

221. *See* Chavarria, *supra* note 29, at 2–3.

222. *See id.* at 2; *see also supra* text accompanying notes 118–125 (discussing the possibility of nuisance claims against wind farms).

223. *See* Chavarria, *supra* note 29, at 2–3.

224. *See* DuVivier, *supra* note 19, at 97–98.

225. *See id.* at 98 ("Instead of applying past regimes to wind, elected officials should study these models for pitfalls to avoid. Future legislation should be tailored to the unique issues raised in developing each specific alternative renewable resource. By taking a proactive approach, we can hope to convert inefficient practices of the past into the productive alternative energy solutions of our future.").

226. TEX. CONST. art. XVI, § 59(a).

lishing a wind estate. Severance will benefit landowners by providing them with more options regarding the use of their properties, and will promote development of the state's energy resources by facilitating the transfer of wind rights to those who have resources to develop them.

This section outlines the contours of statutes that will codify wind as a natural resource and also establish a severable property interest in wind analogous to a property interest in groundwater. This section discusses the three points of the proposed statutory reform—wind's status as a natural resource, wind ownership, and severance of the wind estate—along with some of the rights and provisions that should accompany these statutes. Finally, given that Texas' Legislature is biennial and redistricting is likely to occupy much of the Legislature's time during the 2011 session,[227] Texas courts may have to address these issues before the Legislature can enact laws. Therefore, this section also discusses case law that Texas courts can rely upon to find that wind is a natural resource and to find a severable wind estate.

A. Wind as a New Natural Resource

The Texas Legislature should first pass laws recognizing that the wind is a natural resource subject to regulation by the Legislature pursuant to article XVI, section 59 of the Texas Constitution.[228] Passing a law would be the initial, and perhaps only, necessary step to establish wind as a natural resource subject to legislative regulation.[229] In the absence of legislative action or subsequent to it, the Texas Supreme Court could find that wind is not a natural resource or that the current constitution does not contemplate wind in its definition of natural resource.[230] In this scenario, a constitutional amendment would be necessary to classify wind as a natural resource in the text of article XVI.[231]

A statute or constitutional amendment codifying wind as a natural resource positions the Legislature to act as necessary to limit

227. *See* Mike Snyder, *For 2010 Census, You Really Count*, HOUS. CHRON., Feb. 15, 2010, at A1, A11.

228. TEX. CONST. art. XVI, § 59(a).

229. *See* Chavarria, *supra* note 21, at 835 ("If wind were classified as a natural resource, the Legislature would be authorized to pass laws regulating its use."); *see also supra* Part II.A.

230. *See* Hogwood, *supra* note 25, at 11. The Texas Supreme Court could also find that the wind is a natural resource, thus preempting the need for any action on the part of the Legislature.

231. *See* TEX. CONST. art. XVII, § 1(a)–(c) (outlining the process of amending the Texas Constitution).

wasteful practices and maximize the development and production of wind energy in Texas.[232] This would enable the Legislature to act to prevent turbine wake interference or intentional obstruction of wind flows.[233] The Legislature could pass laws mandating siting, spacing, and setback requirements much in the same fashion that the Railroad Commission mandated spacing requirements for oil wells in East Texas during the 1930s.[234] In addition, if regulating wind requires more time and attention than the Legislature has to devote to it, the Legislature could delegate its regulatory authority to a state agency, much as it did when it delegated regulatory authority over oil and gas to the Railroad Commission.[235]

Codifying wind as a natural resource may be essential to developing efficient practices in the wind energy industry because, although applying the rule of capture to wind could establish a property right in wind, the rule would do little to inhibit wasteful practices. The rule of capture initially led to waste in the oil and gas industry, and that waste began to diminish only after the Legislature authorized the Railroad Commission to regulate oil and gas production.[236] Similarly, groundwater in Texas is also subject to the rule of capture, and the lack of regulation has led to its depletion.[237] The potential for wasteful practices in harvesting wind exists.[238] Although regulation to mitigate waste in wind energy development may not currently be of great concern, finding wind to be a natural resource will position the Legislature to pass laws to mitigate waste in the event it becomes necessary to do so.

In conclusion, a statutory declaration that wind is a natural resource would further the policy, as expressed in Texas case law and statutes, of fully developing Texas' energy resources.[239] In addition,

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232. *Cf.* Sipriano v. Great Spring Waters of Am., Inc., 1 S.W.3d 75, 82 (Tex. 1999) (Hecht, J., concurring) (noting that a lack of regulation of water threatens progress).

233. *See supra* notes 64–75 and accompanying text.

234. *See, e.g.*, Brown v. Humble Oil & Ref. Co., 83 S.W.2d 935, 937–41, 945 (Tex. 1935) (discussing and upholding an oil well spacing rule passed by the Railroad Commission).

235. *See* Hous. Auth. v. Higginbotham, 143 S.W.2d 79, 87 (Tex. 1940) (upholding and explaining the delegation of rulemaking authority to state administrative agencies in Texas); *see also* Chris Reeder, *Regulation by Contractors: Delegation of Legislative Power to Private Entities in Texas*, 5 TEX. TECH J. TEX. ADMIN. L. 191, 201–03 (2004) (describing the history and current status of the nondelegation doctrine in Texas).

236. *See supra* Part I.A.

237. *Sipriano*, 1 S.W.3d at 81–82 (Hecht, J., concurring); *see also supra* text accompanying notes 153–157.

238. *See supra* Part I.C.

239. *See* TEX. UTIL. CODE ANN. § 39.904(a) (West Supp. 2009) ("It is the intent of the legislature" to increase "generating capacity from renewable energy technologies" in Texas); *see also* Chavarria, *supra* note 21, at 837, 840 ("[If] wind is classified as a natural resource, Texas would have an obligation to maximize its development and formulate rules of law that are consistent with the public policy of developing all of the state's natural resources, partic-

the Legislature could use its regulatory authority to mitigate wasteful practices in wind harvesting and encourage further growth in the wind energy industry.[240] All Texans will ultimately benefit from increased production of renewable, clean energy. This will help stabilize and drive down the price of electricity for consumers while lowering carbon emissions from electricity production.[241]

B. Wind Ownership: Capturing Wind

Once wind is a natural resource subject to regulation, the Texas Legislature should enact a law stating that landowners in Texas possess property interests in the wind blowing over their land, subject to the rule of capture as defined under the law of groundwater.[242] Texas already subscribes to a unified fee theory of ownership, but, as mentioned above, this on its own would not establish a property interest in harvested wind that is greater than a neighbor's right to unobstructed wind flows.[243] Thus, something more is needed to establish a property interest in wind.[244] The logic underlying a landowner's right to develop groundwater below the surface provides the most useful analogy for supporting a property interest in wind.[245]

The law of groundwater, although similar to the wild animal theory, is superior because wind is more analogous to groundwater than to wild animals. Both the wild animal theory and groundwater law reach the same end and require the landowner to physically

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ularly those which provide its citizens with a valuable source of energy." (footnote omitted)); Smith, *supra* note 59, at 295–97 (discussing the courts' reluctance to enjoin activities that represent a clear expression of legislative policy, such as the operation of wind farms in states like Texas that have enacted Renewable Portfolio Standards); Culley, *supra* note 64, at 972 (concluding that the holding in *Rankin* is appropriate, especially in light of the societal benefits from wind energy development); *cf.* Rankin v. FPL Energy, LLC, 266 S.W.3d 506, 508–13 (Tex. App. 2008) (finding that Texas nuisance law does not create a cause of action for impaired view of the landscape caused by wind turbines).

240. *See* Chavarria, *supra* note 21, at 837, 840.

241. *See* Jeffry S. Hinman, *The Green Economic Recovery: Wind Energy Tax Policy After Financial Crisis and the American Recovery and Reinvestment Tax Act of 2009*, 24 J. ENVTL. L. & LITIG. 35, 39–44 (2009); Kathryn B. Daniel, Comment, *Winds of Change: Competitive Renewable Energy Zones and the Emerging Regulatory Structure of Texas Wind Energy*, 42 TEX. TECH L. REV 157, 174–75 (2009).

242. A court could also adopt and extend the holding from *Choctaw, Oklahoma & Texas Railway v. True*, 80 S.W. 120 (Tex. Civ. App. 1904), to recognize a right to wind ownership. *See supra* text accompanying notes 102–105. Yet given the ambiguous language of the case, and its potentially limited holding, it would be best to also recognize a right to wind ownership based on the law of groundwater. *See infra* notes 246–257 and accompanying text.

243. *See supra* Part II.B.1.

244. *See supra* text accompanying notes 123–126.

245. *See infra* text accompanying notes 246–251.

reduce either the wild animal or the water to possession.[246] Thus, under either option, a landowner must also reduce wind to possession.[247] Nevertheless, while wind may behave in some respects like a wild animal,[248] it is not a wild animal.[249] Wind is also not a subsurface mineral. Like sub-surface minerals, however, wind is a product of physical forces that act on the earth, although the formation process of wind is much shorter.[250] Moreover, some areas are predisposed to receiving greater amounts of wind flow, much like how areas near lakes and streams are predisposed to having a higher groundwater table.[251] Because wind is more analogous to groundwater, the law of groundwater applies more naturally than the wild animal theory to establishing a property interest in wind.

In applying groundwater law to wind, the rule of capture would establish landowners' rights to develop the wind resources above their respective properties,[252] but would not preclude third-party actions, such as turbine wake interference or the deliberate obstruction of wind flows to downwind neighbors, from interfering with wind energy development.[253] To assure that the new law does not also allow upwind neighbors to intentionally obstruct wind flows to downwind wind farms, wind capture should be defined in a way to indicate that it only entails the use of wind to generate mechanical force or electrical energy. Defining capture in this way would limit a neighbor's ability to claim a right to capture wind

246. *See* Sipriano v. Great Spring Waters of Am., Inc., 1 S.W.3d 75, 76 (Tex. 1999); State v. Bartee, 894 S.W.2d 34, 41 (Tex. App. 1994); *see also* Hogwood, *supra* note 25, at 10 (noting that under both theories of ownership, the landowner must reduce the wild animals or water to possession).

247. *See* Hogwood, *supra* note 25, at 11.

248. *See supra* text accompanying notes 129–131.

249. *See* Roderick E. Wetsel & H. Alan Carmichael, *Current Issues in Wind Energy Law 2009*, AM. ASS'N PROF. LANDMEN ANNUAL MEETING, 18 (June 17–20, 2009), *available at* http://www.landman.org/WCM/Documents/Wetsel,%20Roderick%20E%20-%20Current%20Issues%20in%20Wind%20Energy%20Law%20Paper.pdf ("[W]ind is easily distinguishable from wild animals.").

250. *See supra* note 10. *Compare* PAUL BOMMER, A PRIMER OF OILWELL DRILLING 60–64 (7th ed. 2008) (describing the process of oil formation) *and* Craig Freudenrich & Jonathan Strickland, *How Oil Drilling Works*, HOWSTUFFWORKS.COM (Apr. 12, 2001), http://science.howstuffworks.com/environmental/energy/oil-drilling1.htm (describing the formation of oil from plants and animals that died in the seas between 10 million and 600 million years ago), *with* Rosenberg, *supra* note 8, at 517 (describing the formation of the wind as a byproduct of the daily heating and cooling of the Earth's surface by the Sun).

251. *Compare* COMBS, *supra* note 57, at 168–70 (discussing the formation of the wind, the factors that can affect wind patterns in a given area, and the areas of Texas with significant wind power potential), *with* SAX ET AL., *supra* note 160, at 397–402 (describing groundwater hydrology and the interaction between groundwater and surface water, and also noting that withdrawing water from shallow aquifers near surface water bodies can affect the surface water bodies).

252. *See supra* Part II.B.3.

253. *See generally supra* notes 64–69 and accompanying text.

through the construction of windbreaks, embankments, or other structures whose sole purpose is to impede wind flows and discourage wind energy development by downwind neighbors. This definition will further the policy of fully developing Texas' wind energy resources, while securing a property owner's ability to invest in those resources.[254]

Finally, basing wind ownership on the law of groundwater comes with a caveat: taken alone, the theory provides a property interest in wind, but is insufficient to prevent wasteful practices regarding wind energy. Following its own example in successfully regulating the oil and gas industry,[255] the State must similarly regulate the wind energy industry to ensure efficient growth of wind power and to mitigate any wasteful practices. Contrarily, to its detriment, groundwater management in Texas has suffered from a lack of regulation.[256] In his concurrence in *Sipriano,* Justice Hecht noted this dichotomy in stating that "[t]he extensive regulation of oil and gas production proves that effective regulation . . . is not only possible but necessary and effective. In the past several decades it has become clear . . . that it is not regulation that threatens progress, *but the lack of it.*"[257] Thus, given the Texas Supreme Court's deference to the Legislature regarding issues of natural resource manmanagement, in establishing wind ownership, the Legislature must also recognize the need to exercise its regulatory authority to mitigate wasteful practices in the production of wind energy when it becomes necessary to do so.

C. The Wind Estate

Finally, the Legislature should pass laws establishing that the property interest in wind incident to the surface estate is severable from the surface estate. Wind severance has become common in wind leases, but it is unclear whether courts will recognize wind severance.[258] This casts doubt over the validity of such agreements and has led some wind developers to prefer that landowners do not sever wind rights.[259] Passing laws permitting wind severance would eliminate these problems.

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254. *See* Chavarria, *supra* note 21, at 837, 840; *supra* notes 89, 239 and accompanying text.

255. *See supra* Part I.A.

256. Sipriano v. Great Spring Waters of Am., Inc., 1 S.W.3d 75, 81 (Tex. 1999) (Hecht, J., concurring).

257. *Id.* at 82 (emphasis added).

258. *See supra* notes 29–31 and accompanying text.

259. *See* Chavarria, *supra* note 29, at 4–5.

Following the logic of *Contra Costa*, the Texas wind estate holder should have the same rights as the mineral estate holder.[260] In Texas, the mineral estate holder has the rights to (1) develop, (2) lease, (3) receive bonus payments, (4) receive delay rentals, and (5) receive royalty payments.[261] The first of these, the right to develop, is often referred to as the right of ingress and egress.[262] As with the mineral estate, the holder of the wind estate would have the right to enter the surface estate to the extent necessary to develop and maintain wind turbines and their accompanying infrastructure while taking all reasonable steps to accommodate existing surface uses.[263] Affording the wind estate the same rights as the mineral estate flows from the argument that the public has an interest in policies that promote the development of energy resources.[264] Since wind is a source of energy like oil and gas, the protections afforded to the wind estate should be the same as those afforded to the mineral estate.[265]

It is likely that the mineral estate and the newly recognized wind estate will conflict.[266] Traditionally, the mineral estate is the dominant estate in Texas, and mineral owners have a right to non-negligently use as much of the surface as is necessary even if it interferes with existing surface uses.[267] Thus it appears that "[u]nder Texas law, an oil and gas operator, as the dominant estate holder, can legally block a wind project that could generate a substantial amount of electricity."[268] In this situation, the first recourse could lie in private negotiation.[269] If the mineral owner is exploiting oil and gas deposits on a plot of land that would be profitable for wind development, the holder of the wind rights, or the wind developer on his behalf, will likely want to negotiate to buy the mineral rights or establish a non-interference agreement with the mineral owner.[270]

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260. Contra Costa Water Dist. v. Vaquero Farms, Inc., 68 Cal. Rptr. 2d 272, 278 (Ct. App. 1997); Chavarria, *supra* note 21, at 837.

261. Chavarria, *supra* note 21, at 837 (citing Altman v. Blake, 712 S.W.2d 117, 118 (Tex. 1986)).

262. *See* Altman v. Blake, 712 S.W.2d 117, 118 (Tex. 1986).

263. *See* Harris v. Currie, 176 S.W.2d 302, 304–05 (Tex. 1943); Chavarria, *supra* note 21, at 837 (citing Sun Oil Co. v. Whitaker, 483 S.W.2d 808, 811 (Tex. 1972)).

264. Chavarria, *supra* note 21, at 837, 840.

265. *See id.* at 837.

266. *See id.* at 840.

267. *See, e.g.*, Kenney v. Tex. Gulf Sulphur Co., 351 S.W.2d 612, 614 (Tex. Civ. App. 1961) (finding that the owner of the mineral estate was not liable to the owner of the surface estate for subsidence caused by the non-negligent extraction of sulfur).

268. Chavarria, *supra* note 21, at 840.

269. *See* DuVivier & Wetsel, *supra* note 73, § 9.05.

270. *See id.* § 9.05[1]-[2], at 9-23 to -24.

Yet negotiations will not always be successful.[271] Moreover, the mineral estate may not be in development when the wind owner wants to develop the wind resources, or if mineral severance took place in the distant past, the mineral owner may be difficult to locate.[272] Thus, given the dominance of the mineral estate, the possipossibility of the mineral estate owner subsequently interfering with a wind project would cause concern for the developers of the wind estate and could inhibit wind projects from going forward.[273]

To remedy situations in which negotiations with the mineral owner fail or there is a fear of subsequent interference from the mineral owner, the proposed statute should codify the accommodation doctrine between the mineral estate, the surface estate, and the wind estate.[274] Under the accommodation doctrine, if the mineral owner has an alternative reasonable means to extract minerals that would permit continued use of the surface by the surface owner, then the mineral owner is required to pursue that alternative means.[275] In codifying the accommodation doctrine as applied to wind severance, the law should make clear that in the event that the mineral owner decides in the future to exploit the subsurface minerals, he must do so in a manner that does not interfere with the existing wind power installations or the harvesting of wind to generate wind power.[276] This protects investment in the development of the wind estate by eliminating investors' fear that the production of wind energy in a given area could later be hampered if the owner of the mineral estate decides to develop the mineral resources.[277] The statute would also force mineral owners to decide whether they want to develop the mineral resources of their estate before wind development on the overlying tract begins, or risk having to accommodate the wind estate in the future if they wait to

271. *See id.*

272. *Cf. id.* (discussing how a wind developer may try to negotiate a clause making the surface estate dominant to the mineral estate if the mineral interest is not severed from the surface estate, or alternatively, if the mineral estate is severed, the wind developer may try to contact the mineral estate holder and negotiate a waiver or noninterference agreement).

273. *See id.* § 9.05, at 9-22; *cf.* Chavarria, *supra* note 29, at 4–5 (noting that given the unclear legal validity of wind severances, wind companies and their lenders tend to prefer that landowners not sever wind rights from the surface estate).

274. *See* DuVivier & Wetsel, *supra* note 73, at § 9.04[2]; *see also* Tex. Genco, LP v. Valence Operating Co., 187 S.W.3d 118, 121–23 (Tex. App. 2006) (discussing the accommodation doctrine in Texas).

275. *See* Humble Oil & Ref. Co. v. West, 508 S.W.2d 812, 815–16 (Tex. 1974) (citing Getty Oil Co. v. Jones, 470 S.W.2d 618 (Tex. 1971)); *see also Tex. Genco, LP*, 187 S.W.3d at 121–22 (citing Haupt, Inc. v. Tarrant Cnty. Water Control & Improvement Dist. No. 1, 870 S.W.2d 350, 353 (Tex. App. 1994)).

276. *See* DuVivier & Wetsel, *supra* note 73, § 9.04[2], at 9-21 to -22.

277. *See id.* at 9-20 to -22.

develop their mineral resources.[278] Again, this would promote the overall development of energy resources in the state because in either case, the land would be used to generate energy.[279]

Finally, as similarly applied to the mineral estate, the accommodation doctrine in the statute establishing the severance of wind rights should contain provisions requiring the wind estate to accommodate any existing surface uses of the surface estate owner to the extent reasonably possible.[280] This provision should, for example, prevent wind developers from escaping liability in the event they negligently bulldoze a farmer's house, and would also force wind owners to take steps to minimize the effect of their activities on grazing and farming.[281] Some interference with such activities is inevitable, but the goal should be to minimize that interference.[282] This will permit the policies of promoting productive agricultural use and developing the state's energy resources to coexist.[283]

CONCLUSION

Texas leads the United States in developing wind power infrastructure and producing wind energy.[284] The state has the largest installed production capacity[285] and the second largest potential production capacity, behind North Dakota.[286] Yet unlike Texas, North Dakota has a small local demand for electricity and it is relatively isolated from any major population centers;[287] thus, North Dakota lacks many of the inherent incentives to develop wind energy that Texas possesses.[288] Texas is thus well-positioned to take the

278. *See id.*

279. Chavarria, *supra* note 21, at 837, 840.

280. *See Tex. Genco, LP*, 187 S.W.3d at 121–22 (citing *Haupt, Inc.*, 870 S.W.2d at 353).

281. *See, e.g.*, Getty Oil Co. v. Jones, 470 S.W.2d 618, 619–23 (Tex. 1971) (discussing the circumstances under which a mineral owner would have to accommodate a surface owner's agricultural uses).

282. *See id.* at 621 ("It is well settled that the oil and gas estate is the dominant estate . . . but that the rights implied in favor of the mineral estate [to use the surface] are to be exercised with due regard for the rights of the owner of the servient estate.").

283. *See id.* at 622–23.

284. *See supra* notes 52–57 and accompanying text.

285. *See* Brent Stahl, Lisa Chavarria & Jeff Nydegger, *Wind Energy Laws and Incentives: A Survey of Selected State Rules*, 49 WASHBURN L.J. 99, 136 (2009).

286. D.L. ELLIOT ET AL., AN ASSESSMENT OF THE AVAILABLE WINDY LAND AREA AND WIND ENERGY POTENTIAL IN THE CONTIGUOUS UNITED STATES, app. B, tbl.B.1 (Aug. 1991), *available at* http://www.osti.gov/energycitations/servlets/purl/5252760-ccuOpk/5252760.pdf (showing that North Dakota has the potential to produce an average of 138,400 megawatts per year of wind energy, while Texas has the potential to produce an average of 136,100 megawatts per year).

287. *See* Stahl, Chavarria & Nydegger, *supra* note 285, at 122–23.

288. *See id.* at 136.

lead in developing wind law. Texas oil and gas law is one of the most developed in the country: it is frequently applied in courts outside the state, and is often chosen as the law to govern international oil and gas transactions.[289] Texas wind law, or more generally, renewable energy law, could similarly become the national and international standard. The laws enacted in Texas today to govern the development of wind energy and the management of wind could become the standard for the rest of the country, and the world.

Lawmakers must be proactive in developing this body of law. It was only after waste ravaged much of the Texas oil fields that lawmakers reacted and gave the Railroad Commission the tools it needed to regulate waste of oil and gas. Renewable energy sources, like wind, bring different kinds of concerns, but the underlying policy goal of maximizing the state's energy resources is the same with wind as it is with oil and gas. In addition, failing to fully use renewable natural resources like wind will necessarily lead to greater use of non-renewable natural resource such as oil and gas. Thus, wasting the opportunity to harness wind causes waste of non-renewable natural resources as well.

To further this policy goal, the Texas Legislature should pass laws clarifying that wind is a natural resource under the Texas Constitution. This will solidify the Legislature's ability to regulate wind and recognize an ownership interest in wind. As with groundwater law in Texas, this ownership interest should be based on the rule of capture. Yet unlike groundwater, the Legislature should define capture of wind in a way that excludes deliberate obstruction of wind such as through windbreaks, embankments or other wind-impeding structures, and includes harvesting wind to generate electricity. Moreover, given that wind is a natural resource, the Legislature must stand willing to pass future laws curtailing wasteful practices, or to delegate its regulatory authority to an agency that has the time and expertise to effectively regulate wind harvesting. Finally, making the wind interest severable from the surface estate and incorporating the accommodation doctrine will clarify the status of such severances that have already occurred. It will also promote development of the wind energy industry by providing rural landowners with an interest they can develop, lease, or sell, while allowing the traditional uses of the surface estate to continue with minimal interference. Texas set the standard for energy law in the past; these measures should position Texas to continue setting standards in the future.

289. *See supra* notes 2–7 and accompanying text.